

**Date:** May 17, 2016

**To:** Thomas J. Bonfield, City Manager  
**Through:** W. Bowman Ferguson, Deputy City Manager  
**From:** Donald F. Greeley, Director, Water Management  
**Subject:** Brown and Williams WTP Expansion and Upgrade Project – Construction Contract Award to Crowder Construction Company

### **Executive Summary**

The Department of Water Management (DWM) opened bids on May 2, 2016 for the Brown and Williams Water Treatment Plants (WTP) Expansion and Upgrade project. The project consists of expansion of the Brown WTP from 30 Million Gallons per Day (MGD) to 42 MGD, and upgrading treatment processes at both the Brown WTP and the Williams WTP. DWM recommends the contract be awarded to Crowder Construction Company, the lowest responsive bidder. Additionally, the DWM recommends a contingency of 10% be established for the project.

### **Recommendation**

The Department of Water Management recommends City Council:

1. Authorize the City Manager to execute a contract with Crowder Construction Company for the Brown and Williams WTPs Expansion and Upgrade project in the amount of \$57,057,000.00.
2. Establish a contingency fund for the contract in the amount of \$5,700,000.00.
3. Authorize the City Manager to negotiate change orders for the contract provided that the cost of all change orders together with the original contract does not exceed \$62,757,000.00.

### **Background**

The City owns and operates two water treatment facilities, Brown WTP and Williams WTP, which provide the City with clean potable water. This project makes essential improvements to both plants to address water quality regulations and Stage 2 Disinfection Byproducts Rules, as well as expands the treatment capacity of the Brown WTP from 30 MGD to 42 MGD.

Several new processes are recommended, as well as upgrades to existing processes. This construction project includes the following elements:

#### **At the Brown WTP:**

1. New 12-MGD basin and filter complex for trains 8 & 9, including a static mixer, two flocculation basins, two sedimentation basins, and two filters
2. Upgrades to the existing basin and filter complex for trains 5 through 7, including structural modifications; new static mixers, isolation gates, effluent launders, and filter media; and upgrades to the filter piping
3. New 1.4 MG chlorine contact basin
4. One new 26 MGD raw water pump

5. New chemical feed and storage building to house ferric sulfate, zinc orthophosphate, and sodium permanganate feed systems
6. Upgrades to the existing sodium hydroxide, hydrofluorosilic acid, and sodium hypochlorite feed systems
7. A new sample system
8. New 2,500 kW Generator and paralleling switchgear
9. Demolition of four existing sedimentation basins, lime silos, generator, process piping, chemical feed equipment, building mechanical systems, electrical equipment, and other miscellaneous demolition
10. New Administration building
11. Upgrades to the existing operations building
12. New bulk-bag, powdered activated carbon feed equipment to be located at Lake Michie and Little River reservoirs
13. Instrumentation improvements including a new Supervisory Control and Data Acquisition (SCADA) System
14. Electrical system improvements
15. Site restoration work

**At the Williams WTP:**

1. Upgrades to existing filters including new filter media and upgrades to filter piping
2. Modifications to the raw water splitter box
3. Modifications to the existing 1.1 MG west clearwell
4. Upgrades to the existing ferric sulfate, hydrofluorosilic acid, and zinc orthophosphate feed systems
5. Upgrades to the existing sample system
6. Replacement of valves and actuators in the raw water and blower systems
7. Demolition of lime silos, generator, process piping, chemical feed equipment, electrical equipment, and other miscellaneous demolition
8. Renovation of abandoned filters into an administrative area
9. Instrumentation improvements including a new Supervisory Control and Data Acquisition (SCADA) System
10. Electrical system improvements
11. Site restoration work

Due to the complex and customer-specific functions of SCADA equipment and programming, DWM solicited services from Process Control Integrators to pre-select an integrator for use as a subcontractor in this construction project.

**Issues and Analysis**

The general construction contract was advertised on March 3, 2016, and the following three bids were received on May 2, 2016. The Additive Alternative chosen involves DWM accepting a manufacturer for modulating control valve actuators.

The bid results are:

| <b>Contractor</b>            | <b>Base Bid</b> | <b>Additive Alternate</b> | <b>Final Contract Price</b> |
|------------------------------|-----------------|---------------------------|-----------------------------|
| Crowder Construction Company | \$56,724,000.00 | \$333,000.00              | \$57,057,000.00             |
| Adams Robinson               | \$56,815,000.00 | \$330,850.00              | \$57,145,850.00             |
| Balfour Beatty               | \$58,475,000.00 | \$365,000.00              | \$58,840,000.00             |

Review of the bids deemed all bidders responsive and responsible, and based on the final contract price for the Additive Alternative and past performance on other plant projects for the City, Crowder Construction Co. is recommended.

### Alternatives

Not executing a contract with Crowder Construction Company – The construction is critical to the City's ability to meet upcoming regulatory requirements. This alternative would endanger the City's ability to meet its permitted requirements.

### Financial Impact

Funding for this contract is available in the following accounts:

|          |        |       |                 |
|----------|--------|-------|-----------------|
| 4100P002 | 731000 | P0202 | \$ 7,994,865.63 |
| 4100P002 | 731000 | P0402 | \$ 826,397.65   |
| 4100P002 | 731000 | P0B6A | \$31,250,000.00 |
| 4100P002 | 731000 | P0BG9 | \$13,918,665.62 |
| 4100P002 | 731000 | P2113 | \$ 1,867,071.10 |
| 4100P002 | 731000 | P0BZC | \$ 1,200,000.00 |
| 4100P002 | 731900 | P0BG9 | \$ 5,700,000.00 |
| Total    |        |       | \$62,757,000.00 |

### SDBE Summary

The Equal Opportunity/Equity Assurance Department reviewed the bid submitted by Crowder Construction Co., Apex, NC and have determined that they are in compliance with the Ordinance to Promote Equal Business Opportunities in City contracting.

### SDBE REQUIREMENTS

| Firm                   | ID    | City/State       | Amount    | % of Contract |
|------------------------|-------|------------------|-----------|---------------|
| Lacayo Concrete        | WSDBE | Roughmont, NC    | \$ 95,000 | 0.16%         |
| Vistabulation          | MSDBE | Raleigh, NC      | \$ 12,200 | 0.02%         |
| JA Farrington          | MSDBE | Durham, NC       | \$ 12,200 | 0.02%         |
| Gramac Electric Supply | MSDBE | Kernersville, NC | \$125,000 | 0.21%         |
| Southern Gardens       | WSDBE | Apex, NC         | \$ 64,000 | 0.11%         |

The goals for this project were: 3% M/SDBE and 1 % W/SDBE. While Crowder Construction did not meet the goals, they did make a good faith effort to do so. The original E-101 Form reflected goal attainments of MSDBE 0.25% and WSDBE of 0.27%.

Crowder made attempts to contact all of the firms that were included in the SDBE listing in the bid documents. Subsequent to the submission of the original E-101 Forms, Crowder Construction identified additional participation. There were two NCDOT firms contacted but not listed that have been added to this report. Additionally, there were four M/WSDBE firms identified as Second Tier SDBE participation.